

PHENIX Technical Support 2006

PHENIX WEEKLY PLANNING

4/6/06

Don Lynch



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- Lots of Housekeeping
- Tier 1 inspection (No major faults)
- TOF W & HBD HV cables
- More MPC Cards?
- Prep for HBD prototype



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MPC Electronics



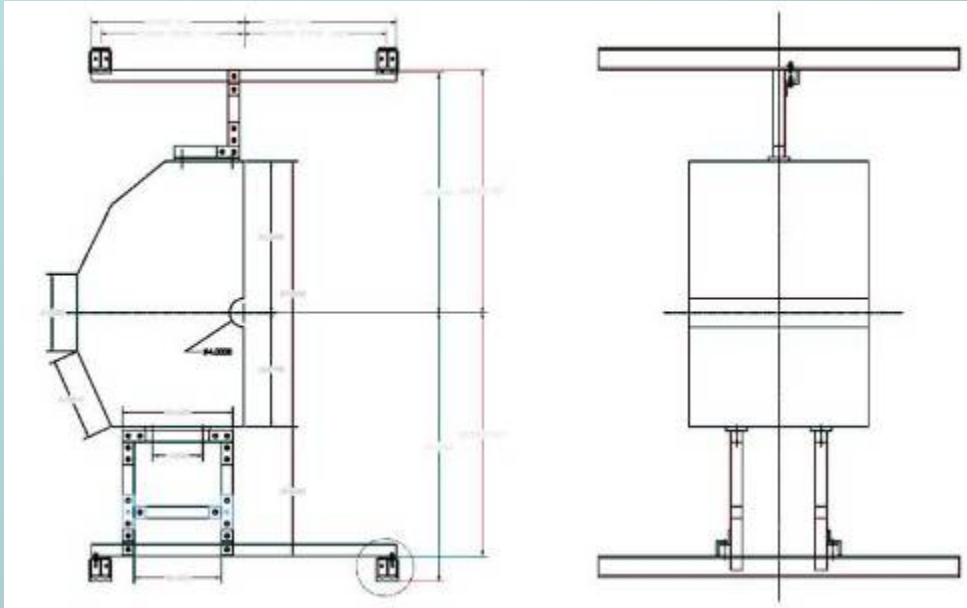
MPC What's next?

PHENIX

- Continue prep for HBD prototype installation (on table and mounted support structures, transparency monitoring hutch and mixing house gas system tasks).
- TEC panels?
- More MPC cards?
- New detector work (TOF West handling fixtures, HBD support structure, RXNP design, MPC North design)

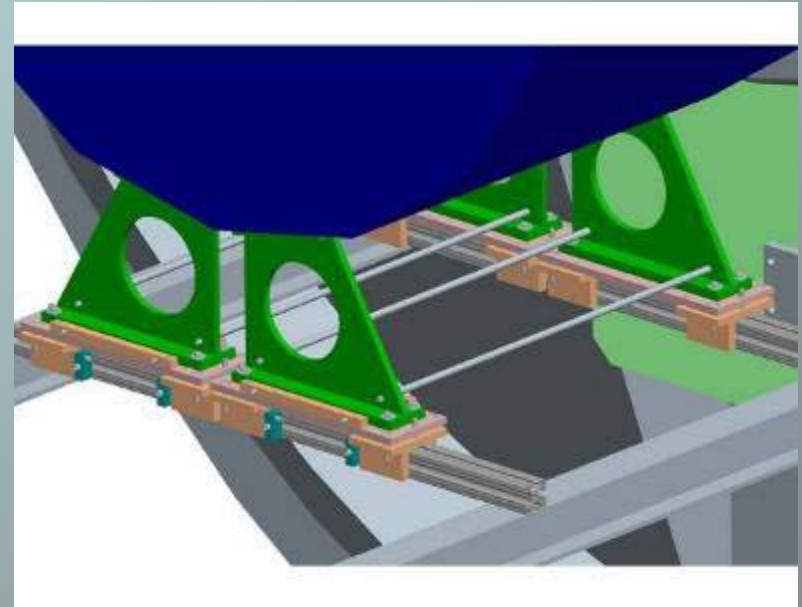


HBD Prototype Mounting



Prototype can not use final design mounting due to differences in location of connectors and other basic design differences.

Prototype mounting to be fabricated from fg unistrut.



Design of full detector details nearly complete and ready for fabrication.

3D model received from WI

HBD Prototype



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Jig #1 for the PCB
and active panels



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Jig #2 for the
entire vessel

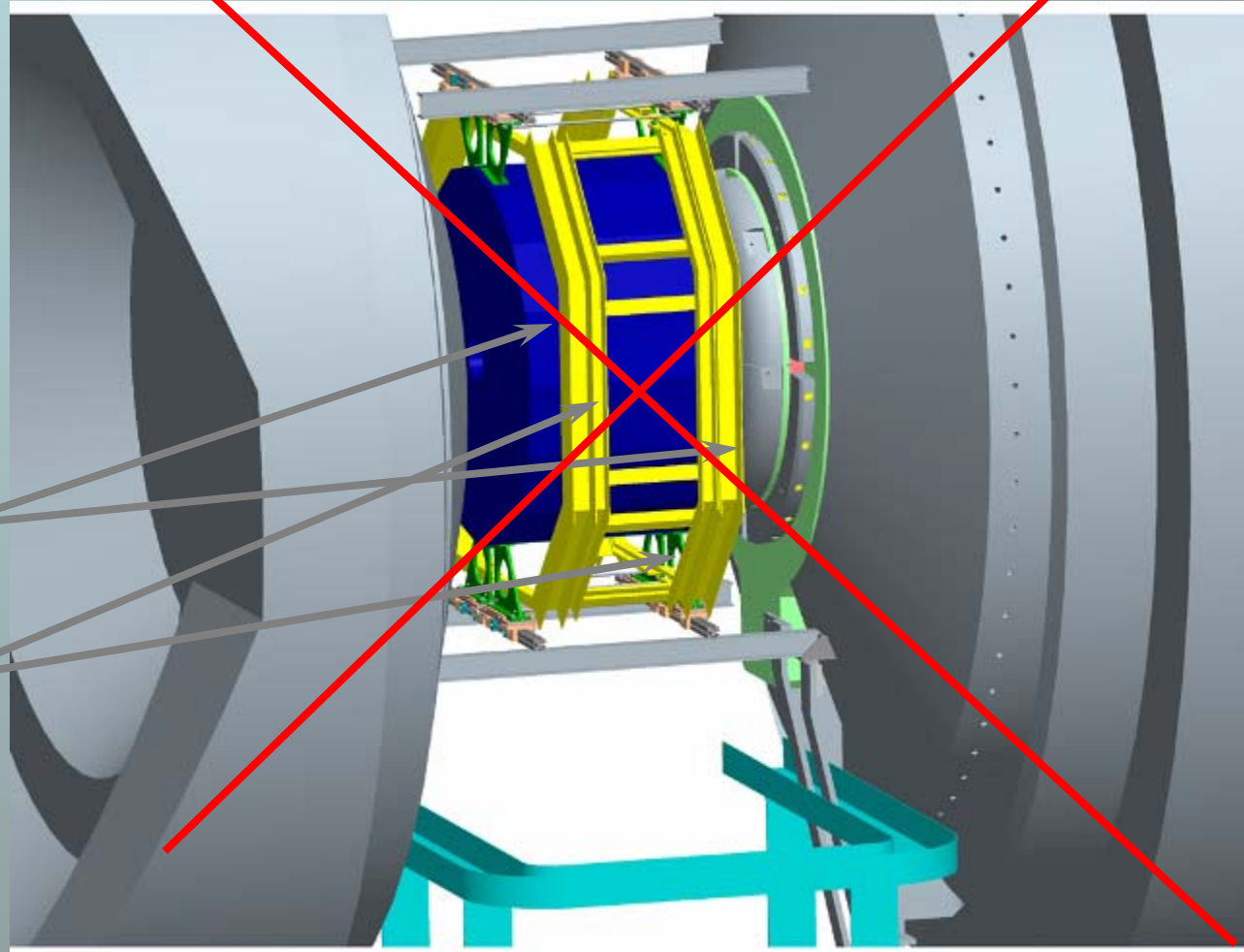


HBD Cable Management Scheme (Last Week)

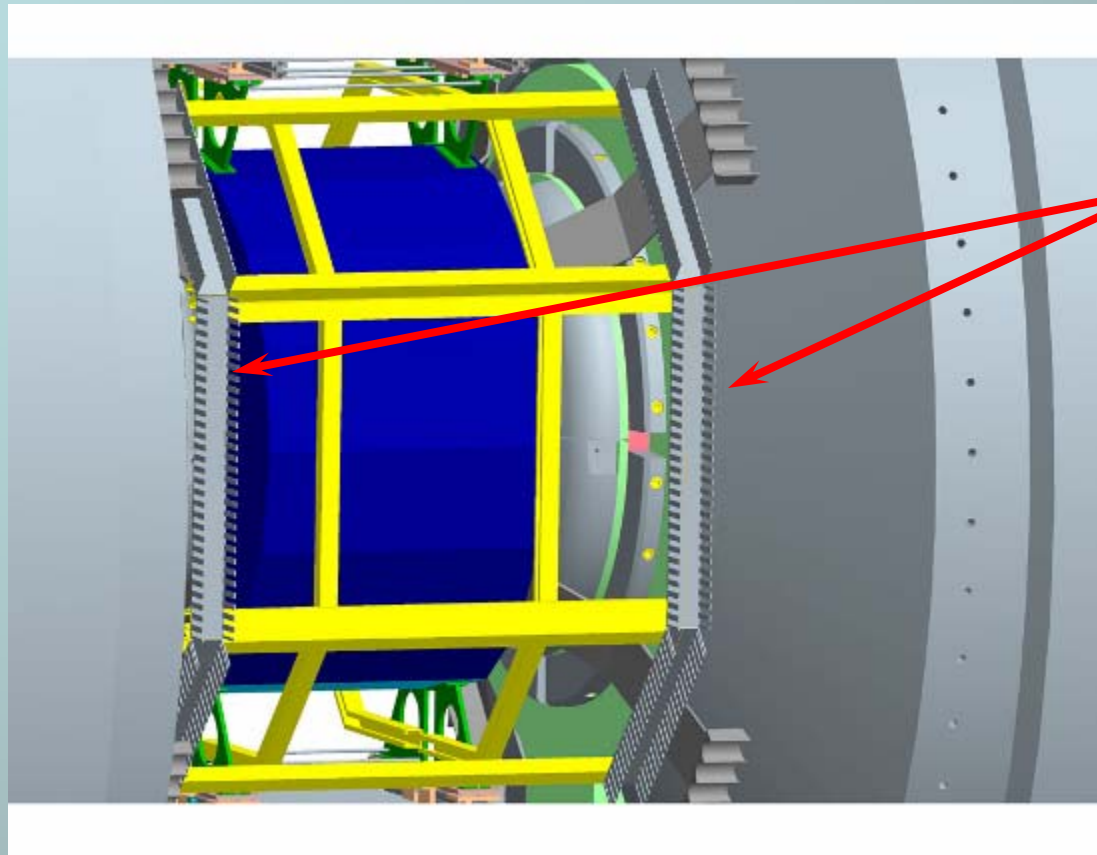
Flexible panduit cable trays mounted to rigid fiberglass unistrut backbone provide support and strain relief for 156 cable bundles (6 north and 6 south for each of 6 facets on each $\frac{1}{2}$ detector.

3" x 3" panduit for signal cables

2" x 2" panduit for HV cables



HBD Cable Management Scheme (Take 2)

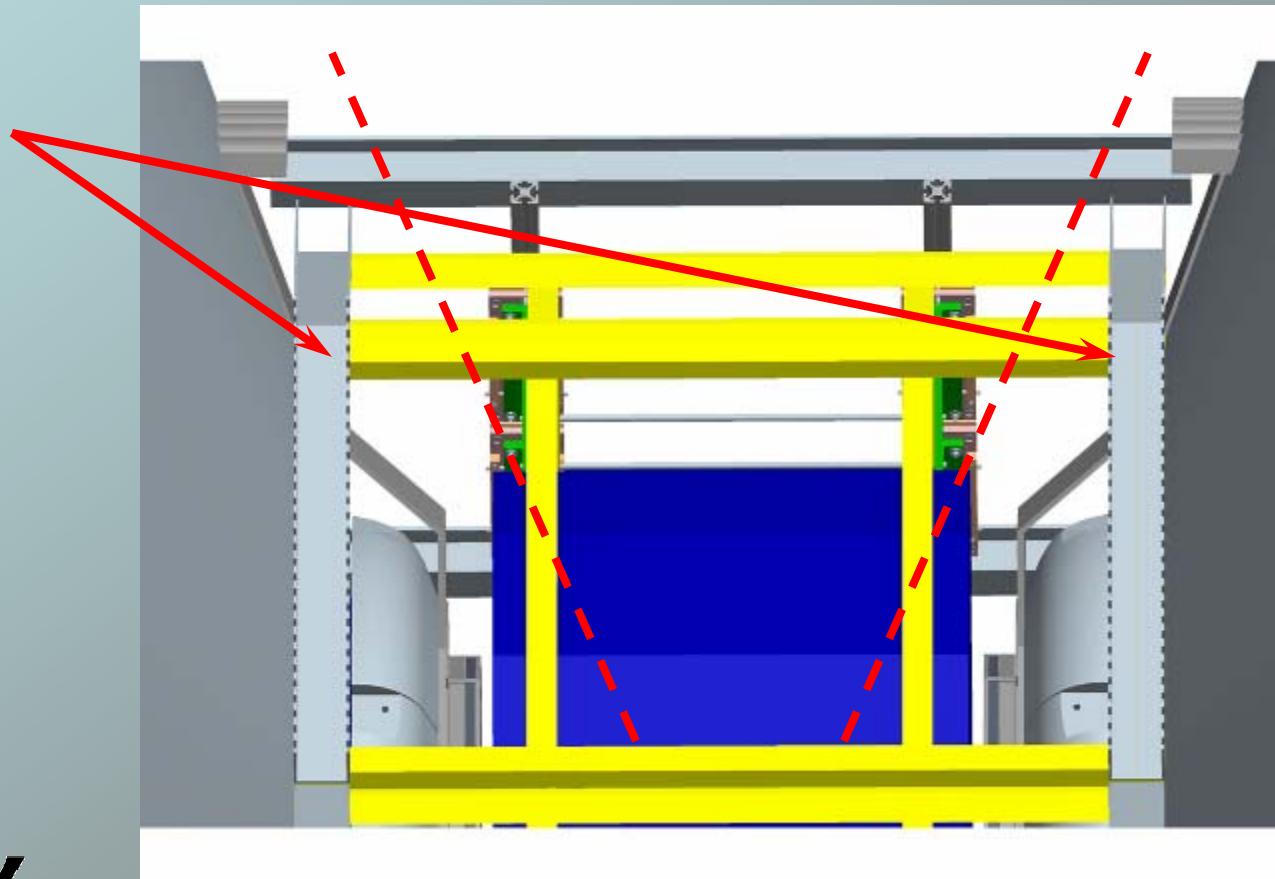


Move cable trays out
closer to pole face.
Eliminate HV 2x2 tray.

HBD Cable Management Scheme (Take 2)



Cable Trays moved
out of acceptance

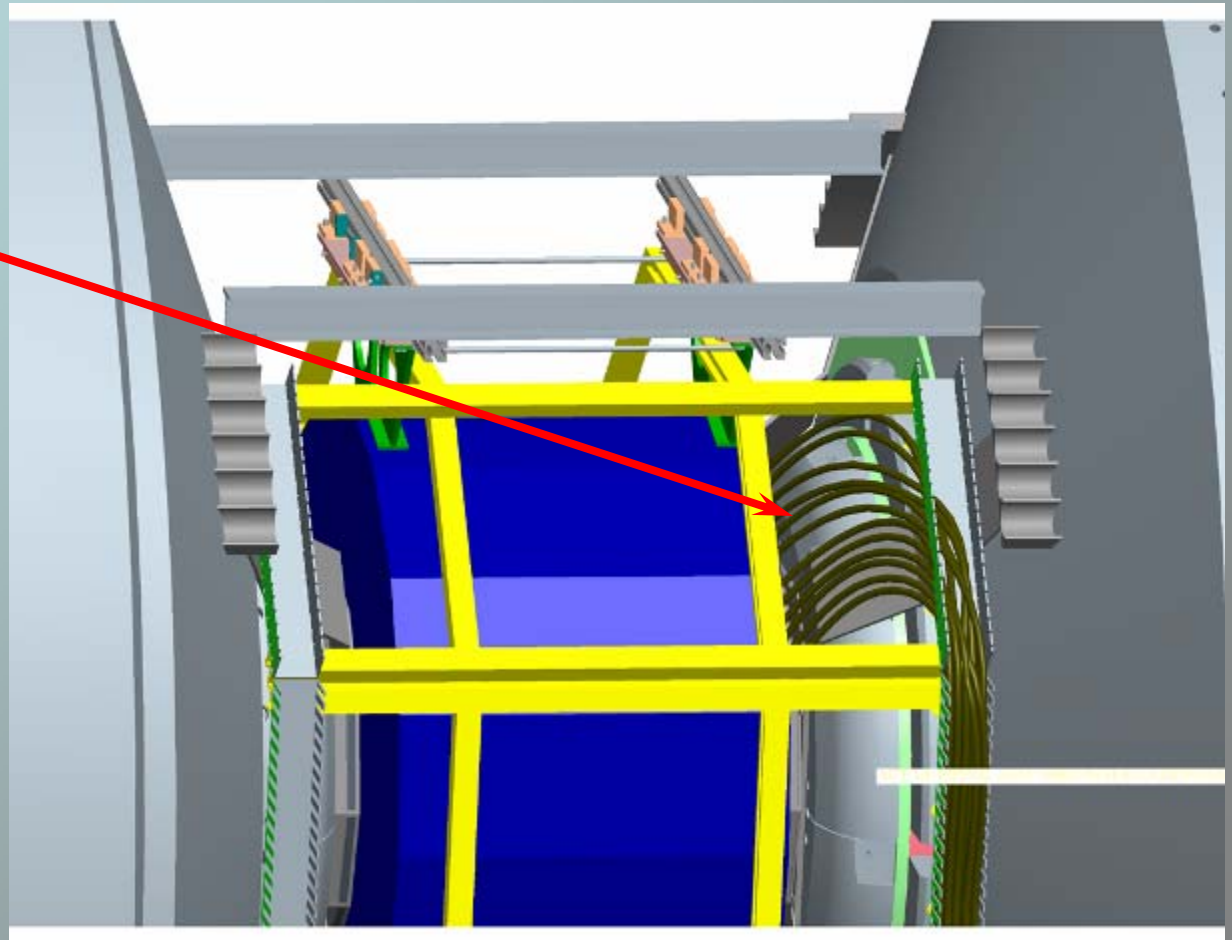


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HBD Cable Management Scheme (Take 2)



Signal/LV Cables
Added to 2 sectors



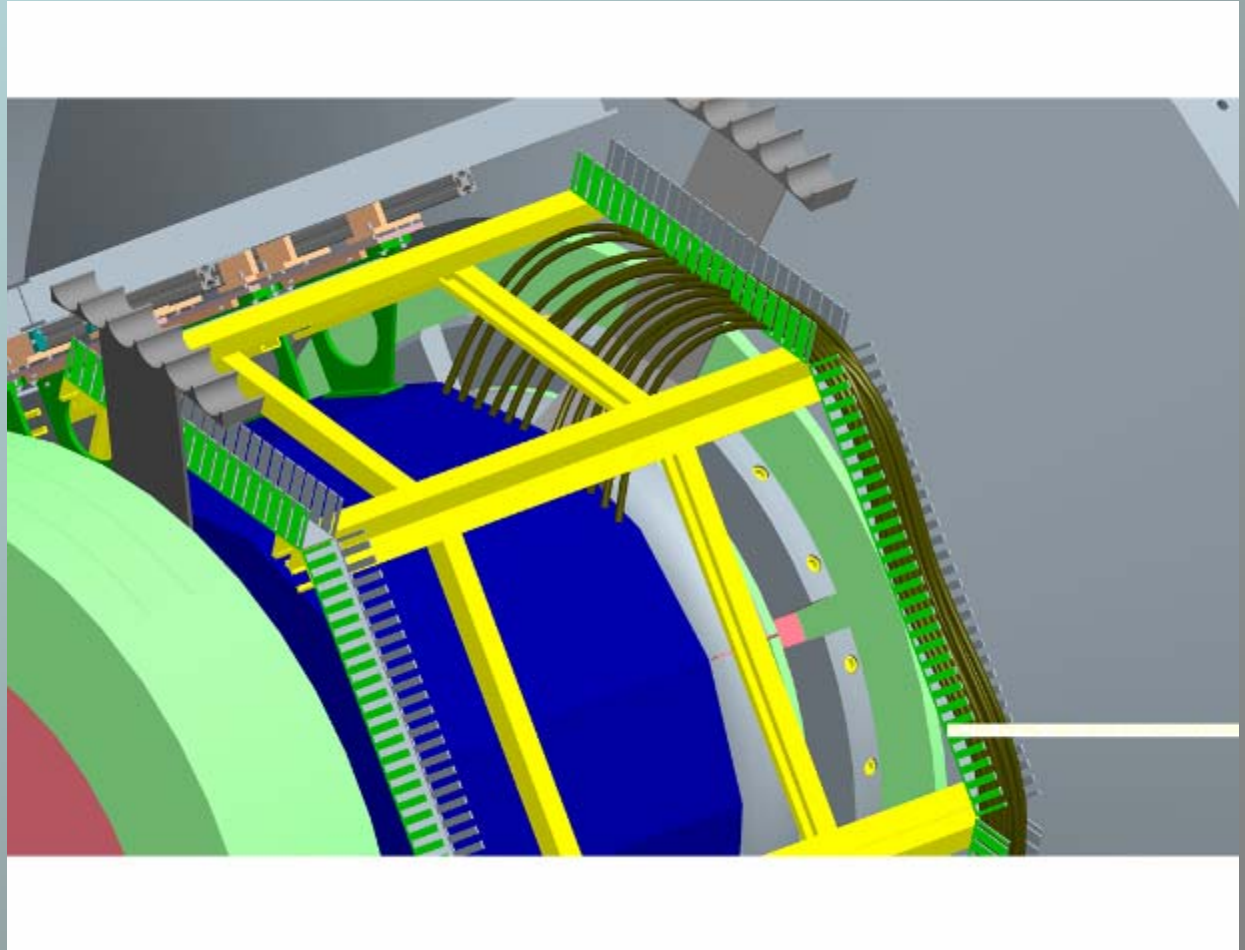
HBD Cable Management Scheme (Take 2)



Signal/LV Cables
Another view

12 cables are
illustrated out of 156
total

PMT's, Cables and
Fibers for RXNP are
not shown



Next Access Day

- Expect next access day (8 hrs) to be April 19
- May be shorter controlled accesses before then
- Subsystems must arrange for tech assistance prior to access day or don't expect assistance. (see Don Lynch or John Haggerty)
- PHENIX Techs only on CM lift platform unless accompanied by PHENIX Tech (Lift platform is locked and will remain locked even after BLM stand is removed)
- Planned:
 - More MPC cards installation?
 - Remove BLM (test is completed)
 - HBD Prototype installed on table

Other Projects

TOF West

- Expect detectors to be at BNL by June 1.

HBD

- Prototype installation 4/19. Final detector (1/2) to be shipped from WI later this month

MPC North

- New enclosure & fixture design to be based on lessons learned from south installation.

RXNP

- Design Proceeding

Muon RPC

- Moving toward CDR in summer '06

Beampipe design

- Conceptual design needs tweaking. New spec control drawing needed .

Engineering Documentation

- Documentation/Drawings data base with web based retrieval
- 3D model at detector outline level with utility envelopes
- utility schematics

Reaction Plane Detector (RXNP)

Lead converter

Outer spacer (6 per quad)

Outer scintillator (3 per quad)

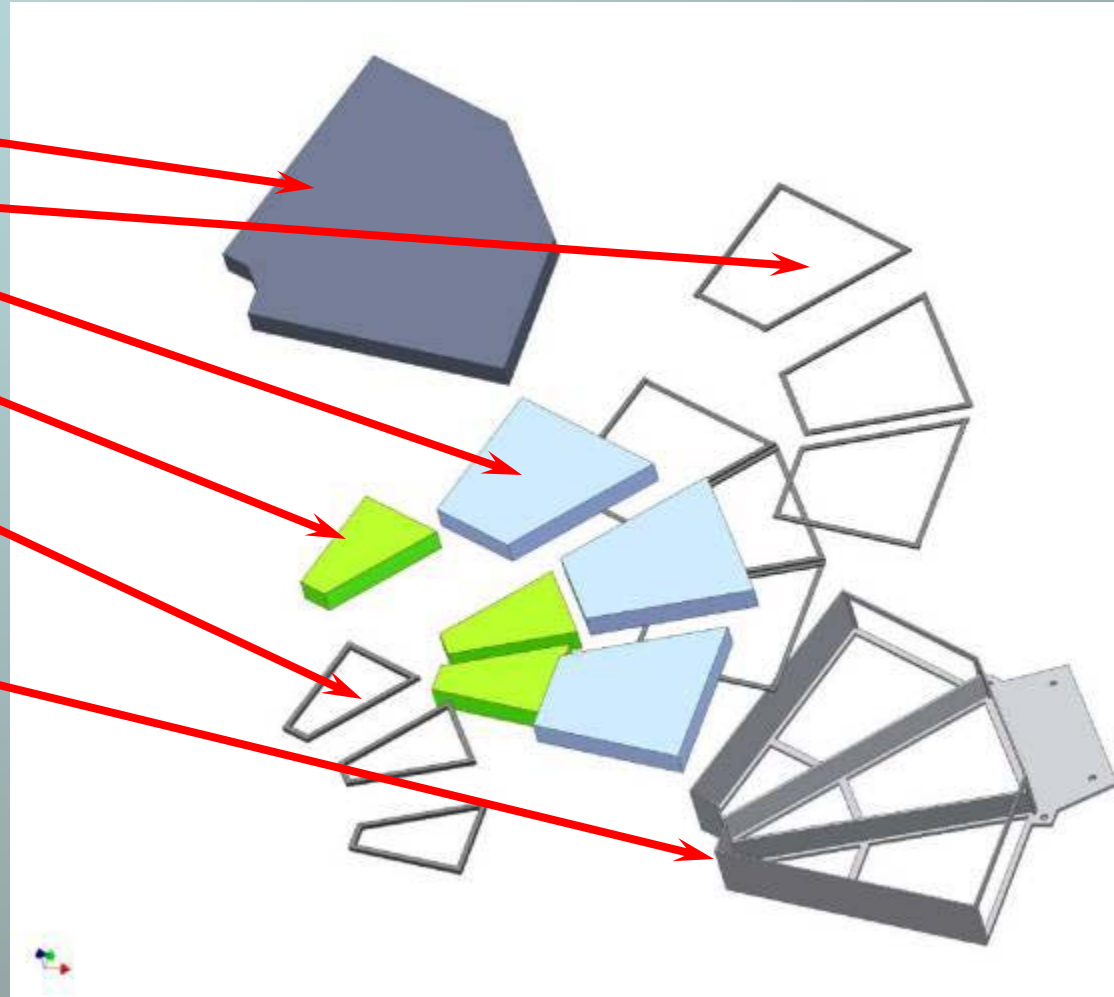
Inner scintillator (3 per quad)

Inner spacer (3 per quad)

Tray

4 quads per assy

North and South assy's

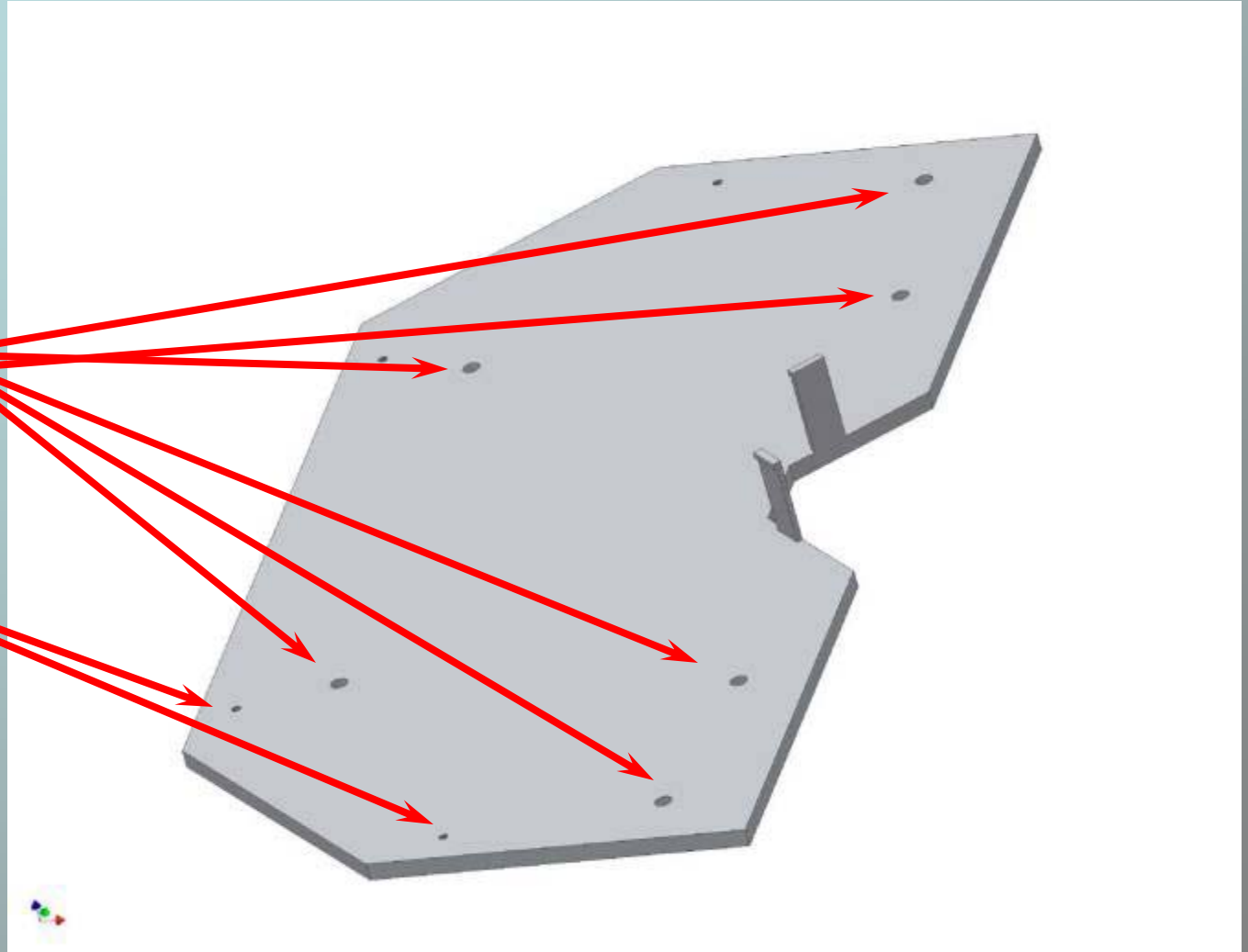


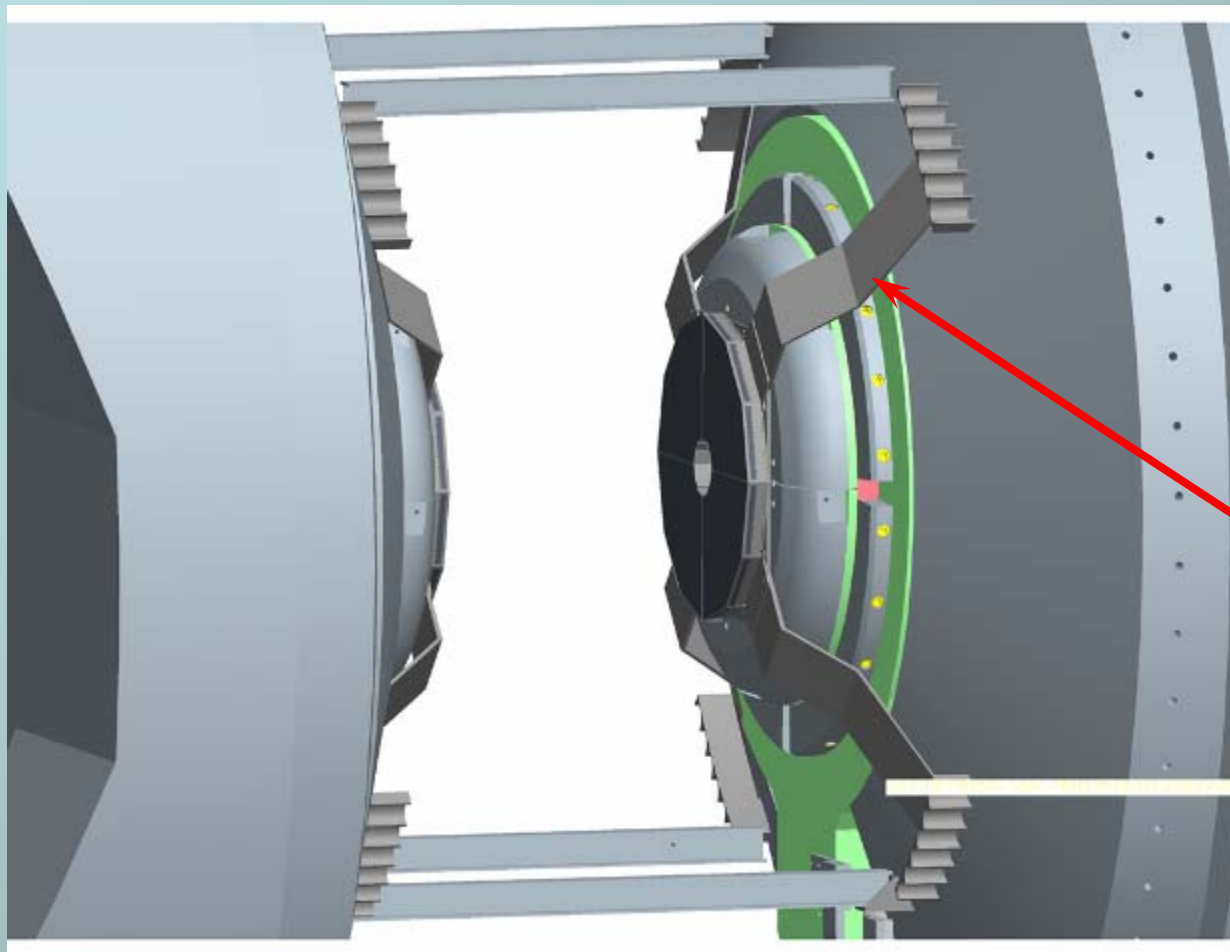
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Base Plate 3/8
alum

2 per assembly.
Mounts to existing
 $\frac{1}{4}$ -20 holes on
Brass nosecone.

Quads are then
mounted to Base
Plate

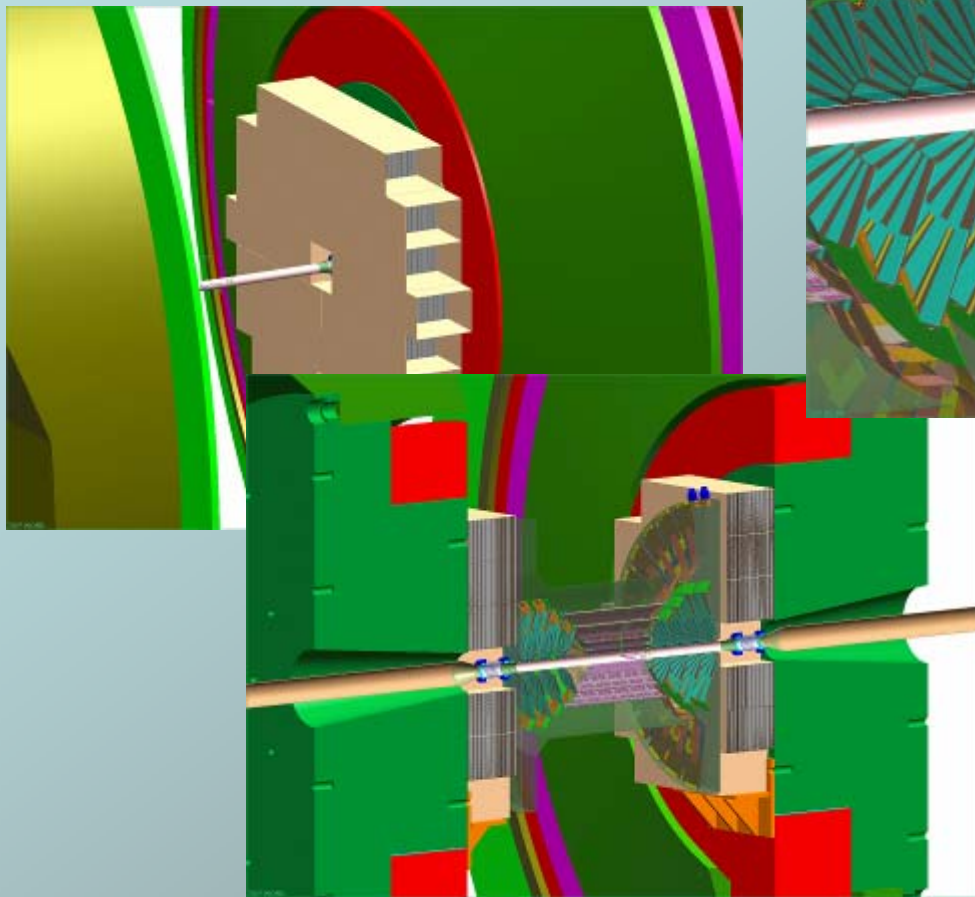




North and south
detectors each
with 4 arms to
PMT's (6 on each
arm at 111 cm
radius)

Arms now have jog
to accommodate
HBD

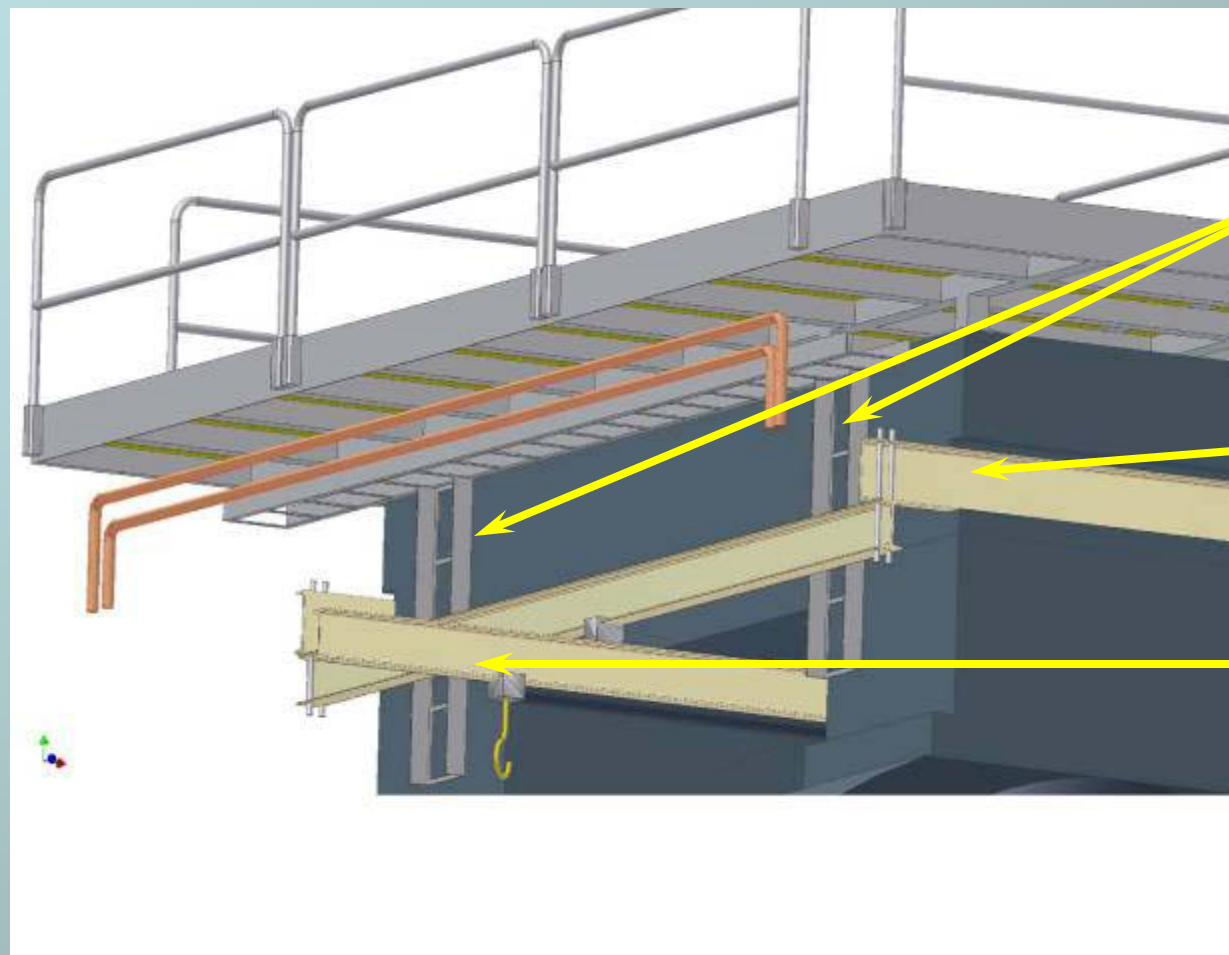
New Beampipe for Upgrades



CA Coordination meeting findings:

1. Min radial clearance for VTX = 25 mm
2. Min Be ID = 40 mm
3. Be wall = 0.5 mm (4.4 mm min clearance)
4. Be ID to be neg coated at BNL
5. Be OD to be epoxy coated by Vendor
6. Requires supports at both bellows
7. Stress analyses needed (axial stress, vacuum breach shock stress and thermo-mechanical stresses during bakeout)
8. RF analysis of bellows needed (shields?)

CM Region Crane & Cable Routing Concept



Cable Trays to route cables NCC Detector from Bridge

Crane Supports use existing flux return notches

CM Crane north-south & east-west motions; extended travel east to existing crane coverage

Current Tasks

- General run support
- New storage trailer (as promised)
- Fix roof leaks

Tasks for Shutdown 2006

- Install access platforms from EC top north and MMS
- Replace emergency fan louvres
- Rewire/add IR ceiling lights on emergency power
- Replace WC sliding platform hoisting cables
- Mixing house exhaust fan maintenance

MOLD Problems



- June '06: end run 5, prep for start of shutdown, prep EC for move to AH
- July '06: TOF West installation, RXNP installation
- Aug. '06: MPC North installation, HBD installation
- Sep. '06: Detector subsystems maintenance, roll EC in, prep for run 6
- Oct. '06: Plan to start cooldown on Oct. 15th

Subsystems: Get requests for maintenance in early to get on the schedule

Links for weekly planning meeting slides, long term planning, pictures, videos and other technical info can be found from the web site:

http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL_SSint-page.htm